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## Lace bug, *Cochlochila bullita* (Stal) (Hemiptera: Tingidae), A potential pest of basil in Bikaner (Rajasthan), India

**Keshav Mehra, VS Acharya and Veer Singh**

### Abstract

Basil, *Ocimum tenuiflorum* is an important medicinal herbs. In Bikaner district and other fields of Bikaner block, the lace bug, *Cochlochila bullita* (Stal) (Hemiptera: Tingidae) was reported in the basil in natural field conditions during the year 2018-19. This pest has a vivid potential to cause severe damage in the tulsi. Bugs have piercing and sucking mouthparts and both adult and nymph cause damage by removing the cell sap from the soft tissues of host plant. This resulted into curling and drying of leaf tip, lowering the inflorescence production and wilted growth of the host plant.

**Keywords:** *Ocimum tenuiflorum*, *Cochlochila bullita*, nymph, bugs

### Introduction

Basil or tulsi, *Ocimum tenuiflorum* (synonym *Ocimum sanctum*) belongs to the family Lamiaceae is widely distributed in Rajasthan as well as in India. This small herb is a native of India and has ayurvedic and medicinal properties [1]. Leaves, stem, flowers, seeds and roots contains essential oil and flavonoids which is used in the different clinical treatments like anxiety, chronic cold, fever, snake and scorpion bites and malaria etc. Oil of tulsi also used in cosmetic and food industry. Its extracts also have insecticidal properties. The lace bug *Cochlochila bullita* (Stal) (Hemiptera: Tingidae) often surveyed throughout the world, has been reported a potential pest of *Ocimum*, in Thailand [8]. In India this pest is also reported as a major pest of *Ocimum* in India [7, 5, 3, 4]. Lace bug infests plants during the summer months from July to December and passes through five generations. Lace bug has a piercing and sucking mouthparts and both adult and nymph cause damage by removing the cell sap from the soft tissues of host plant. This resulted into curling and drying of leaf tip, lowering the inflorescence production and wilted growth of the host plant [6]. The adult lace bugs usually feed on tender part of the plant causing them to wilt and eventually die and in many instances, nymphs and adults feed gregariously on the leaves leaving tiny black spots of excrement on the upper surface of the leaves [2]. During adverse climatic conditions adults hibernate in the plant debris.

### Materials and Methods

The study was carried out during the year 2018-19. Distribution of the lace bug was carried but by the survey of blocks of Bikaner, Rajasthan, India. Observations were taken by collecting bug from tulsi leaves (top, middle and bottom) in natural conditions. Collected bugs were preserved in 70 per cent ethanol and taxonomically identified further.

### Results and Discussion

The adults of lace bug, *Cochlochila bullita* are tiny insects, about 2.5-3.0 mm long and brown to black in colour with hyaline wings. Their wings are partially transparent and lace-like in architecture and the paranotum is strongly elevated and curved backward to form a conspicuous crescent shaped structure. The adult male and female are morphologically similar, except the female was significantly larger with respect to body length. Male of lace bug has a distinct genital capsule with hidden structure (parameres) whereas the female can be differentiated from the male by the presence of an ovipositor. The nymphs of lace bug are black in colour and spiny structures found on the body. Females deposited eggs singly or in cluster on the leaves and young branches of the plant [8]. These insects are gregarious in nature.

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The adults are weak fliers and not inclined to fly off when disturbed.

Adult and nymphs both cause damage by removing the cell sap from the soft tissues of host plant. This resulted into curling and drying of leaf tip, lowering the inflorescence production and wilted growth of the host plant. In India, *C. bullita* infests plants during the summer months from July to December and passes through five generations. During adverse climate conditions adults hibernate in the plant debris [3].



**Fig 1:** Adult of *Cochlochila bullita*



**Fig 2:** Nymphs of *Cochlochila bullita*



**Fig 3:** Damage caused by the *Cochlochila bullita*

### Conclusion

The economic damage caused by the lace bug, *Cochlochila bullita* (Stal) (Hemiptera: Tingidae) in the tulsi, *Ocimum tenuiflorum* showed that it has an intense potential to become a dominant pest in nearby future.

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### References

1. Balyan SS, Pushpangadan P. A study on the taxonomic status and geographic distribution of the *Ocimum*. PAFAI Journal. 1988; 10(2):13-19.
2. Giliomee JH. First record of the lace bug *Cochlochila bullita* (Hemiptera: Tingidae) as a pest of rosemary in South Africa. African Entomology. 2014; 22(3):670-672.
3. Kumar A. The lace bug *Cochlochila bullita* (Stal), A destructive pest of *Ocimum sanctum* in Jharkhand, India. Phytoparasitica. 2014; 42(3):295-302.
4. Kumari S, Kumar N, Kumar A. Seasonal Incidence and Damage Intensity of Lace bug, *Cochlochila bullita* (Stal) (Hemiptera: Tingidae) on Tulsi, *Ocimum Basilicum* L. International Journal of science, Environment and Technology. 2016; 5(6):4312-4319.
5. Livingstone D, Yacoob MHS, Jeyanthibai S, Livingstone AR. Tingifauna of Southern India: Distribution Host plants Natural enemies and Generic key. Journal Bombay Natural History society. 1997, 94.
6. Mohanasundaram M, Rao PVS. A note on *Cochlochila bullita* Horvath (Heteroptera: Tingidae) as a part of *Coleus parviflorus* a tube crop in Tamilnadu, India. Indian Journal of Entomology. 1973; 35:346.
7. Palaniswami MS, Pillai KS. Biology of *Cochlochila bullita* S., a pest on Chinese potato. Journal of Root Crops. 1983; 9:59-62.
8. Tigvattnanont S. Studies in the bionomics and local distribution of some lace bugs in Thailand: I. *Monanthia globulifera* (Hemiptera: Tingidae). Khon Kaset Agricultural Journal. 1989; 17:333-344.